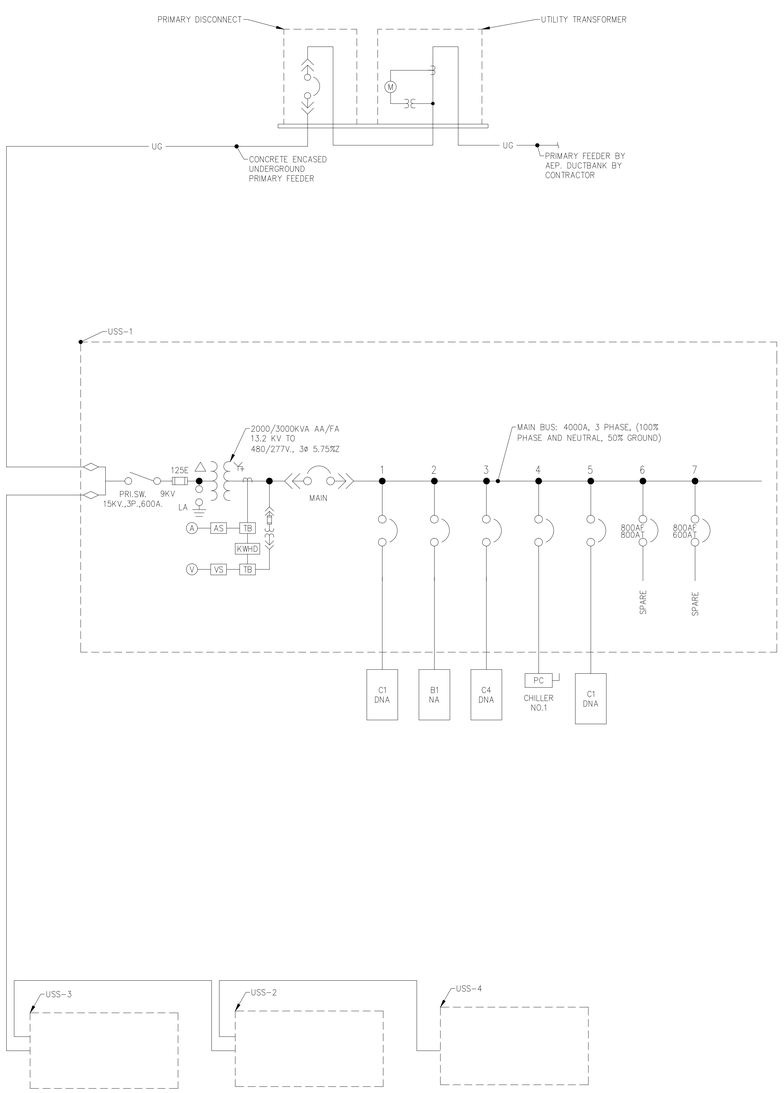
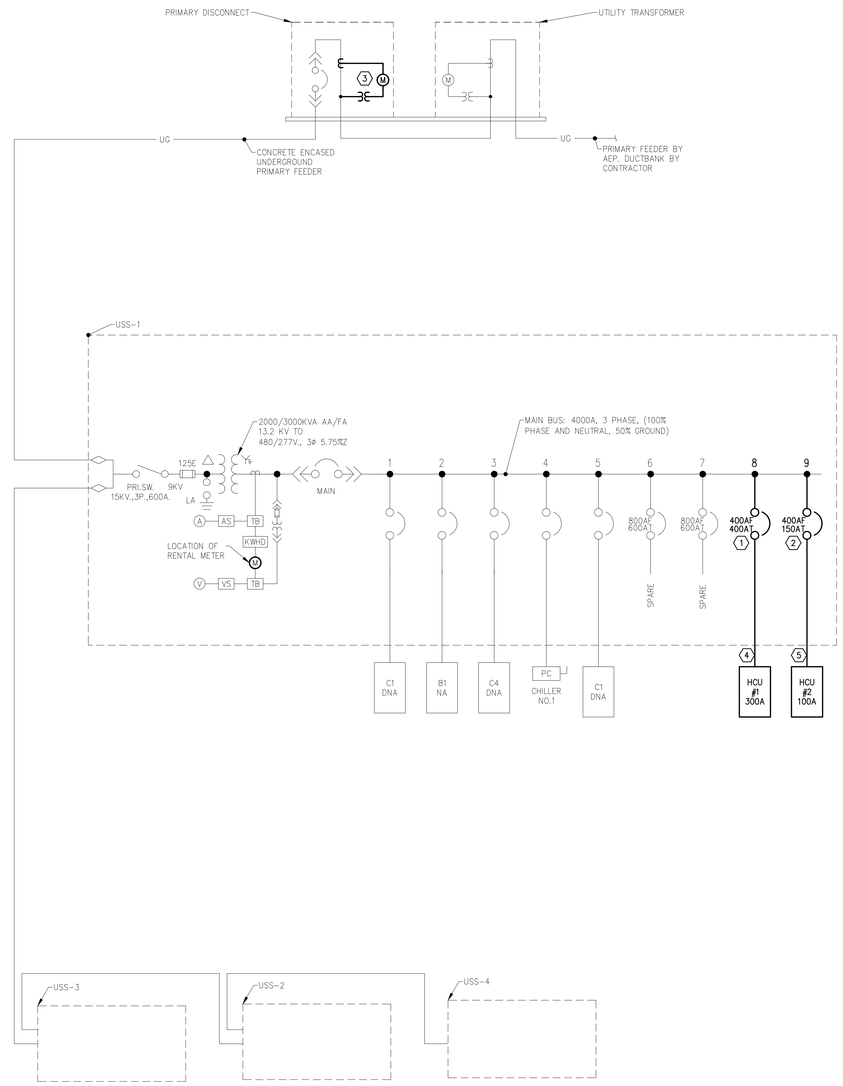


1 ONE-LINE DIAGRAM - EXISTING

SCALE: NTS



2 ONE-LINE DIAGRAM - NEW WORK

SCALE: NTS

GENERAL NOTES:

A. EC SHALL HIRE EATON ENGINEERING SERVICES OR AUTHORIZED DEALERS FOR THE INSTALLATION OF THE EATON XPERT POWER METER AND OVERSIGHT OF INSTALLATION OF HARMONIC CORRECTION UNITS. EATON ENGINEERING SERVICES (OR AUTHORIZED DEALERS) SHALL ALSO PERFORM VERIFICATION AND REPROGRAMMING OF THE HARMONIC CORRECTION UNITS AS NECESSARY SIX (6) MONTHS FOLLOWING PROJECT COMPLETION. THE EATON POINT OF CONTACT FOR THIS PROJECT IS:
   KEVIN R FREEMAN
   EATON CORPORATION
   600 NORTH CLEVELAND AVENUE, SUITE 150
   WESTERVILLE, OH 43082
   (614) 899-4106
   KEVINRFREEMAN@EATON.COM

B. EQUIPMENT AND SERVICES TO BE PROVIDED BY EATON ENGINEERING SERVICES (OR AUTHORIZED DEALERS) ARE AS FOLLOWS:

   1 – 300A HARMONIC CORRECTION UNIT, 480V
   1 – 100A HARMONIC CORRECTION UNIT, 480V
   1 – SET OF 3 CURRENT TRANSFORMERS FOR INPUT TO HCUS
   1 – STARTUP SERVICE INCLUDING 6-MONTH FOLLOW-UP FOR HCUS
   2 – 400A FRAME MOLDED CASE CIRCUIT BREAKERS WITH MICROPROCESSOR BASED TRIP UNITS; ONE WITH 400A TRIP, ONE WITH 150A TRIP. INCLUDES ALL MOUNTING HARDWARE, COPPER STRAPS AND DEADFRONT COVERS.
   1 – EATON I02290 SERIES POWER QUALITY METER
   1 – PARTS AND LABOR TO MOUNT I02290 METER TO EXISTING MV SWITCH
   1 – MODIFICATIONS TO EXISTING EQUIPMENT AS REQUIRED FOR INSTALLATION OF I02290 METER
   1 – SET UP AND PROGRAMMING FOR HARMONIC MONITORING

   INSTALLATION OF ALL ABOVE-MENTIONED EQUIPMENT (EXCEPT POWER METER) SHALL BE BY EC.

C. NO WORK SHALL BE PERFORMED ON USS-2, USS-3, OR USS-4; THESE ARE SHOWN THIS SHEET FOR REFERENCE ONLY.

D. HARMONICS-MEASURING ELECTRICAL METERS SHALL BE INSTALLED AND/OR VERIFIED FOR PROPER FUNCTION ON MEDIUM VOLTAGE SWITCH AND ON USS-1 PRIOR TO INSTALLATION OF HCU#1 AND HCU#2

⬡ CODED NOTES:

1. EC SHALL PROVIDE A NEW 400AF/400AT, 3P MOLDED CASE CIRCUIT BREAKER, RATED 65KA INTERRUPTING CAPACITY AT 480V, WITH COMPLETE CONNECTOR KIT, CONSISTING OF ALL MOUNTING HARDWARE, COPPER STRAPS FOR CONNECTION TO THE BUS AND AN APPROPRIATE DEAD FRONT COVER FOR AN EATON POW-R-LINE C SWITCHBOARD. TRIP UNIT SHALL BE DIGITRIP 310, WITH LSIG TRIP FUNCTIONS.

2. EC SHALL PROVIDE A NEW 400AF/150AT, 3P MOLDED CASE CIRCUIT BREAKER, RATED 64KA INTERRUPTING CAPACITY AT 480V, WITH COMPLETE CONNECTOR KIT, CONSISTING OF ALL MOUNTING HARDWARE, COPPER STRAPS FOR CONNECTION TO THE BUS AND AN APPROPRIATE DEAD FRONT COVER FOR AN EATON POW-R-LINE C SWITCHBOARD. TRIP UNIT SHALL BE DIGITRIP 310, WITH LSIG TRIP FUNCTIONS.

3. NEW EATON 2290 HARMONICS CAPABLE POWER METER INSTALLED BY EATON ENGINEERING SERVICES (OR AUTHORIZED DEALERS).

4. EATON CUTLER HAMMER HCUE300D5N1. POWER CABLES CONNECTED TO HCU SHALL BE PLACED IN METAL CONDUIT TO REDUCE NOISE COUPLING. ENTRY FOR ALL POWER AND CONTROL WIRING SHALL BE MADE THROUGH REMOVABLE CONDUIT-ENTRY PLATES IN THE HCU ENCLOSURE. 2 SETS 4/0 AWG COPPER IN 2 1/2" CONDUIT WITH A #1AWG COPPER GROUND. ALL POWER WIRING SHALL BE ROUTED DIRECTLY FROM THE CONDUIT ENTRY PLATE TO THE TERMINATIONS ON FUSE BLOCK FB1 AND THE EARTH GROUNDING TERMINAL WITHOUT LOOPS. THE TERMINAL BUS BARS ARE DESIGNED TO ACCEPT 3/8" SAE GRADE 5 (M10) BOLTS; FASTENING TORQUE SHALL BE 300LBS-IN.

5. EATON CUTLER HAMMER HCUE100D5N1. POWER CABLES CONNECTED TO HCU SHALL BE PLACED IN METAL CONDUIT TO REDUCE NOISE COUPLING. ENTRY FOR ALL POWER AND CONTROL WIRING SHALL BE MADE THROUGH REMOVABLE CONDUIT-ENTRY PLATES IN THE HCU ENCLOSURE. 1 SET 1/0 AWG COPPER IN 1 1/2" CONDUIT WITH A #4AWG GROUND. ALL POWER WIRING SHALL BE ROUTED DIRECTLY FROM THE CONDUIT ENTRY PLATE TO THE TERMINATIONS ON FUSE BLOCK FB1 AND THE EARTH GROUNDING TERMINAL WITHOUT LOOPS. FASTENING TORQUE SHALL BE 275LBS-IN.

100 PERCENT SUBMISSION

Revisions:	Date

ENGINEERS:

ADVANCED ENGINEERING CONSULTANTS
Electrical - Mechanical - Plumbing - Fire Protection
1310 DUBLIN ROAD TEL: (614) 486-4778
COLUMBUS, OHIO 43215 FAX: (614) 486-4082

ARCHITECT:

emersion DESIGN
emersion DESIGN LLC
1775 Mentor Ave Suite 202
Cincinnati, Ohio 45212
513 841 9100
emersiondesign.com

Drawing Title: ONE-LINE DIAGRAM

Approved:

Project Title: CHALMERS P. WYLIE VA AMBULATORY CARE CLINIC HARMONIC REMEDIATION

Location: COLUMBUS OH

Date: 2013/08/16 | Checked: GL | Drawn: KC

Project Number: 757-13-104

Building Number:

Drawing Number: E-003

Dwg. 04 of 4

Office of and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

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